

Office of the City Engineer

John C. Rooney, P.E.
Assistant Commissioner of Public Works/
City Engineer



City Hall
730 Washington Avenue
Racine, WI 53403
262.636.9191
Fax: 262.636.9545

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MEMO

To: John C. Rooney, P.E.

Re: Traffic Study - Intersection of Osborne, Haven and Blaine

From: Ara P. Molitor, P.E.

Purpose: Determine if there is something that can be corrected at the intersection.

Method: Field observation, traffic count, and an accident analysis.

ANALYSIS:

Existing Conditions

- Blaine Avenue is 120 foot wide right of way with a boulevard type roadway. It is 100' wide face to face for the entire width of the roadway (30' face to face in each direction with a 40' median strip). The roadway material is asphalt over concrete.
- Haven Avenue is a 60 foot wide right of way with a 36' face to face roadway. The roadway material is asphalt over concrete.
- Blaine and Haven would make a 90 degree "T" intersection.
- Osborne Boulevard is a 66 foot right of way with a 42' face to face roadway. The roadway material is asphalt over concrete overlaid in 2015.
- Osborne cuts across the Blaine/Haven intersection between a 35-45 degree angle heading southeast to northwest. This created an odd 5 legged "K" intersection.
- Intersection control: Haven is a "Stop" controlled at the intersection of Haven and the southbound leg of Blaine. Blaine is a "Stop" controlled at the intersection of the northbound leg of Blaine and Osborne.
- Both Blaine and Haven are residential streets and are "un-posted" 25 MPH speed limit. Osborne is a collector street posted at 30 MPH speed limit.

Traffic Analysis

- Average Daily Traffic:
 - Osborne – ADT 7104
 - Haven – ADT 1038
 - Blaine – ADT 727 (nearly 50/50 split on the boulevard)

- Speed Trailer Results: (Osborne Only)
 - 33721 Total Vehicles
 - Avg. Speed - 29.7 MPH
 - 85th % Speed - 34 MPH
 - 315 vehicles traveling at 11 MPH over the speed limit = 0.9%
 - 0.9% does not warrant a “Problem Location”
- Accident Study 2010-2016 Findings
 - 3 total accidents: 0 Injuries 0 Deaths
 - All reported accidents – non correctable (a.k.a. inattentive driving)
- Warrants
 - Currently the intersection is controlled by Stop sign at Blaine and Haven
 - All current factors do not warrant any other or additional devices.
 - To warrant an “All-Way” Stop condition one of the following must be justified:
 - An accident problem – 5 or more reported accidents that would be correctable by a 4-way stop installation.
 - Volume > 500 veh./hr for any 8 hour period of an average day.
 - Combined vehicle and pedestrian traffic for the minor street(s) must average 200 units/hr for the same 8 hour period.
 - Average delay to minor street vehicular traffic of at least 20 sec/veh. during the maximum hour.
 - Intersections that have a highly restricted visibility.
 - Note: “All-Way” Stop should only be used if less restrictive devices have proved unsuccessful in reducing accidents.
 - **Criteria for “All-Way” Stop conditions are not met.**

CONCLUSIONS:

- The “Warranting” data does not support any additional “control” to this intersection.
 - In discussing options with the Sign Shop for the City of Racine, they can create a unique sign to add to Osborne Blvd. prior to the intersection in either direction depicting the odd shape “K” intersection. Hopefully this would add the “warning” presence of an odd intersection, and slow traffic slightly on Osborne. (Sign: variation of W2-3L&R)
 - The addition of W4-4P sign – “Cross Traffic Does Not Stop” - placed under the Stop signs on Haven and Blaine may have a similar effect in raising awareness to the unique situation at the intersection.
- The intersection is compromised geometrically which affects site lines but not site distances. However the accident rate and Speed Trailer results do not warrant any change geometrically.

Recommendation: add additional signage as suggested and continue monitoring.